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RAW SEQUENCE LISTING

DATE: 09/24/2004

PATENT APPLICATION: US/10/823,964A

TIME: 10:57:26

Input Set : A:\SEQLIST1a.TXT

Output Set: N:\CRF4\09242004\J823964A.raw

4 <110> APPLICANT: BAM, NARENDRA
 5 BONGERS, JACOB
 6 KIRKPATRICK, ROBERT B.
 7 JANSON, CHERYL A.
 8 JOHANSON, KYUNG
 9 QIU, XIANYANG
 10 YEH, PING
 12 <120> TITLE OF INVENTION: CONJUGATES COMPRISING HUMAN IL-18 AND
 13 SUBSTITUTION MUTANTS THEREOF
 16 <130> FILE REFERENCE: PU60053
 18 <140> CURRENT APPLICATION NUMBER: 10/823,964A
 19 <141> CURRENT FILING DATE: 2004-04-14
 21 <150> PRIOR APPLICATION NUMBER: 60/462,947
 22 <151> PRIOR FILING DATE: 2003-04-15
 24 <160> NUMBER OF SEQ ID NOS: 28
 26 <170> SOFTWARE: FastSEQ for Windows Version 4.0
 28 <210> SEQ ID NO: 1
 29 <211> LENGTH: 157
 30 <212> TYPE: PRT
 31 <213> ORGANISM: Homo sapiens
 33 <400> SEQUENCE: 1
 34 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn
 35 1 5 10 15
 36 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp
 37 20 25 30
 38 Met Thr Asp Ser Asp Cys Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile
 39 35 40 45
 40 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile
 41 50 55 60
 42 Ser Val Lys Cys Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile
 43 65 70 75 80
 44 Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys
 45 85 90 95
 46 Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys
 47 100 105 110
 48 Met Gln Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu
 49 115 120 125
 50 Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu
 51 130 135 140
 52 Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp
 53 145 150 155
 56 <210> SEQ ID NO: 2
 57 <211> LENGTH: 157



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58 <212> TYPE: PRT

59 <213> ORGANISM: Mus musculus

61 <400> SEQUENCE: 2

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62 Asn Phe Gly Arg Leu His Cys Thr Thr Ala Val Ile Arg Asn Ile Asn
63 1           5           10           15
64 Asp Gln Val Leu Phe Val Asp Lys Arg Gln Pro Val Phe Glu Asp Met
65           20           25           30
66 Thr Asp Ile Asp Gln Ser Ala Ser Glu Pro Gln Thr Arg Leu Ile Ile
67           35           40           45
68 Tyr Met Tyr Lys Asp Ser Glu Val Arg Gly Leu Ala Val Thr Leu Ser
69           50           55           60
70 Val Lys Asp Ser Lys Met Ser Thr Leu Ser Cys Lys Asn Lys Ile Ile
71 65           70           75           80
72 Ser Phe Glu Glu Met Asp Pro Pro Glu Asn Ile Asp Asp Ile Gln Ser
73           85           90           95
74 Asp Leu Ile Phe Phe Gln Lys Arg Val Pro Gly His Asn Lys Met Glu
75           100          105          110
76 Phe Glu Ser Ser Leu Tyr Glu Gly His Phe Leu Ala Cys Gln Lys Glu
77           115          120          125
78 Asp Asp Ala Phe Lys Leu Ile Leu Lys Lys Lys Asp Glu Asn Gly Asp
79           130          135          140
80 Lys Ser Val Met Phe Thr Leu Thr Asn Leu His Gln Ser
81 145          150          155

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84 <210> SEQ ID NO: 3

85 <211> LENGTH: 203

86 <212> TYPE: PRT

87 <213> ORGANISM: Homo sapiens

89 <400> SEQUENCE: 3

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90 Met His His His His His His Thr Arg Gly Met Ala Ala Glu Pro Val
91 1           5           10           15
92 Glu Asp Asn Cys Ile Asn Phe Val Ala Met Lys Phe Ile Asp Asn Thr
93           20           25           30
94 Leu Tyr Phe Ile Ala Glu Asp Asp Glu Asn Leu Glu Ser Asp Tyr Phe
95           35           40           45
96 Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn Asp Gln
97           50           55           60
98 Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp Met Thr
99 65           70           75           80
100 Asp Ser Asp Cys Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile Ile Ser
101           85           90           95
102 Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile Ser Val
103           100          105          110
104 Lys Cys Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile Ile Ser
105           115          120          125
106 Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys Ser Asp
107           130          135          140
108 Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys Met Gln
109 145          150          155          160
110 Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu Lys Glu

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113          165          170          175
114 Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu Gly Asp
115          180          185          190
116 Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp
117          195          200
120 <210> SEQ ID NO: 4
121 <211> LENGTH: 157
122 <212> TYPE: PRT
123 <213> ORGANISM: Homo sapiens
125 <220> FEATURE:
126 <223> OTHER INFORMATION: Whereby the Cysteine at position 38 of this human IL-18
127     sequence has been replaced with Serine.
129 <400> SEQUENCE: 4
130 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn
131 1      5      10      15
132 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp
133      20      25      30
134 Met Thr Asp Ser Asp Ser Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile
135      35      40      45
136 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile
137      50      55      60
138 Ser Val Lys Cys Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile
139 65      70      75      80
140 Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys
141      85      90      95
142 Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys
143      100     105     110
144 Met Gln Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu
145      115     120     125
146 Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu
147      130     135     140
148 Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp
149 145     150     155
152 <210> SEQ ID NO: 5
153 <211> LENGTH: 157
154 <212> TYPE: PRT
155 <213> ORGANISM: Homo sapiens
157 <220> FEATURE:
158 <223> OTHER INFORMATION: Whereby the Cysteine at position 38 of this human IL-18
159     sequence has been replaced with Serine, the Cysteine at
160     position 68 has been replaced with Aspartic acid, and the
161     Asparagine at position 78 has been replaced with Cysteine.
163 <400> SEQUENCE: 5
164 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn
165 1      5      10      15
166 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp
167      20      25      30
168 Met Thr Asp Ser Asp Ser Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile
169      35      40      45

```

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```

170 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile
171      50                      55                      60
173 Ser Val Lys Asp Glu Lys Ile Ser Thr Leu Ser Cys Glu Cys Lys Ile
174 65                      70                      75                      80
175 Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys
176                      85                      90                      95
177 Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys
178                      100                      105                      110
179 Met Gln Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu
180                      115                      120                      125
181 Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu
182                      130                      135                      140
183 Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp
184 145                      150                      155

```

187 <210> SEQ ID NO: 6

188 <211> LENGTH: 157

189 <212> TYPE: PRT

190 <213> ORGANISM: Homo sapiens

192 <220> FEATURE:

193 <223> OTHER INFORMATION: Whereby the Cysteine at position 38 of thi human IL-18
 194 sequence has been replaced with Serine, the Cysteine at
 195 position 68 has been replaced with Aspartic acid, and the
 196 Glutamic acid at position 121 has been replaced with Cysteine.

198 <400> SEQUENCE: 6

```

199 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn
200 1      5      10      15
201 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp
202      20      25      30
203 Met Thr Asp Ser Asp Ser Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile
204      35      40      45
205 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile
206      50      55      60
207 Ser Val Lys Asp Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile
208 65      70      75      80
209 Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys
210      85      90      95
211 Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys
212      100      105      110
213 Met Gln Phe Glu Ser Ser Ser Tyr Cys Gly Tyr Phe Leu Ala Cys Glu
214      115      120      125
215 Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Leu
216      130      135      140
217 Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp
218 145      150      155

```

221 <210> SEQ ID NO: 7

222 <211> LENGTH: 157

223 <212> TYPE: PRT

224 <213> ORGANISM: Homo sapeins

226 <220> FEATURE:

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227 <223> OTHER INFORMATION: Whereby the Cysteine at position 38 of this human IL-18
sequence

228 has been replaced with Serine, the Cysteine at position 68 has
229 been replaced with Aspartic acid, and the Leucine at position 144
230 has been replaced with Cysteine.

232 <400> SEQUENCE: 7

233 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn

234 1 5 10 15

235 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp

236 20 25 30

237 Met Thr Asp Ser Asp Ser Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile

238 35 40 45

239 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile

240 50 55 60

241 Ser Val Lys Asp Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile

242 65 70 75 80

243 Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys

244 85 90 95

245 Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys

246 100 105 110

247 Met Gln Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe Leu Ala Cys Glu

248 115 120 125

249 Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys Glu Asp Glu Cys

250 130 135 140

251 Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu Asp

252 145 150 155

255 <210> SEQ ID NO: 8

256 <211> LENGTH: 157

258 <212> TYPE: PRT

259 <213> ORGANISM: Homo sapiens

261 <220> FEATURE:

262 <223> OTHER INFORMATION: Whereby the Cysteine at position 38 of the human IL-18
sequence

263 has been replaced with Serine, the Cysteine at position 68 has
264 been replaced with Aspartic acid, and Aspartic acid at position
266 157 has been replaced with Cysteine.

268 <400> SEQUENCE: 8

269 Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile Arg Asn Leu Asn

270 1 5 10 15

271 Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro Leu Phe Glu Asp

272 20 25 30

273 Met Thr Asp Ser Asp Ser Arg Asp Asn Ala Pro Arg Thr Ile Phe Ile

274 35 40 45

275 Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met Ala Val Thr Ile

276 50 55 60

277 Ser Val Lys Asp Glu Lys Ile Ser Thr Leu Ser Cys Glu Asn Lys Ile

278 65 70 75 80

279 Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile Lys Asp Thr Lys

280 85 90 95

281 Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly His Asp Asn Lys

282 100 105 110

VERIFICATION SUMMARY

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